Utah Influenza Report

This report contains data through the week ending 5/10/2014 (MMWR week 19).

UTAH DEPARTMENT OF HEALTH
Communicable Disease Analysis & Reporting Program

Overview of Influenza Surveillance: Surveillance for the 2013-2014 influenza season officially began on September 29, 2013. The Utah Department of Health publishes a weekly report throughout the active influenza season that synthesizes data from a variety of sources to give the most complete and up-to-date picture of influenza activity in the state of Utah. Data in this report should be considered provisional, and may change as more complete reports are received.

Influenza-like Illness (ILI): The U.S. Outpatient Influenza-like Illness Surveillance Network (ILINet) is a national system that conducts surveillance for influenza-like illness (ILI) in outpatient healthcare facilities. ILINet providers report weekly the total number of patients seen for any reason and the number of patients seen with ILI (defined as a fever ≥ 100° F and a cough or sore throat). These data are used to determine the amount of ILI circulating in the community, as well as provide insight into regional differences in ILI activity. Currently, more than 50 facilities throughout Utah participate in ILINet.

Figure 1. Weekly Influenza-like Illness Activity
Influenza-like illness (ILI) activity as measured by the number of standard deviations from the epidemic threshold - Utah, 2013-2014

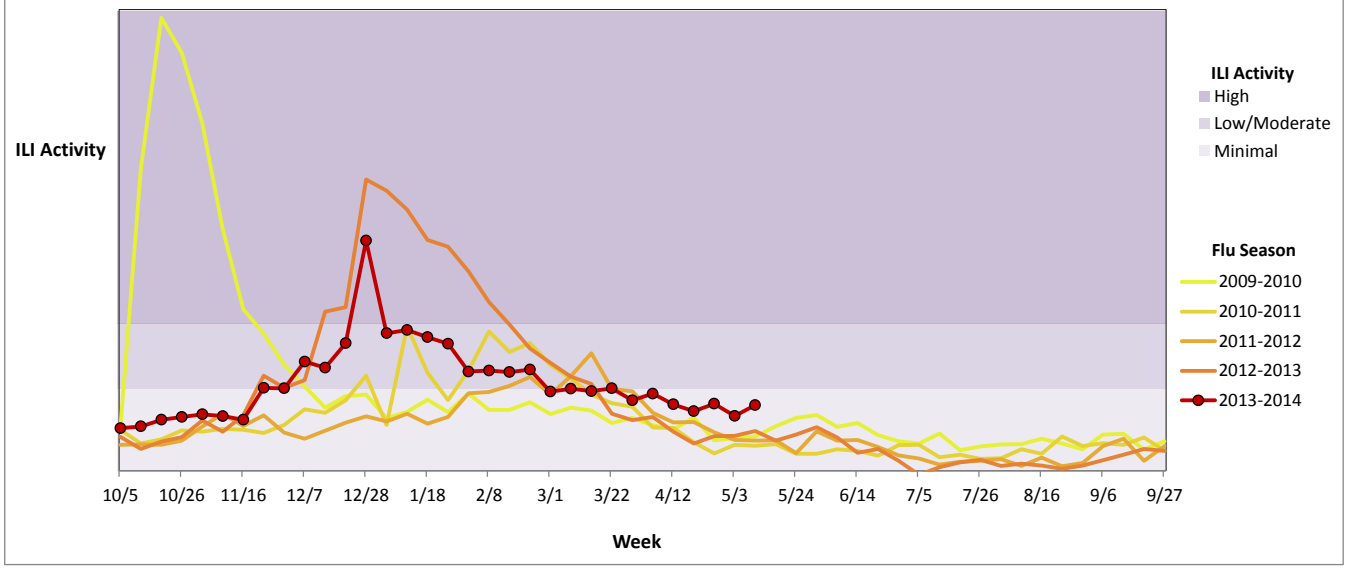

Table 1. Influenza-like Illness (ILI) Activity Levels by Health District - Utah, Current Week

Health District	ILI Activity
Bear River	Minimal
Central	Minimal
Davis	Minimal
Salt Lake	Minimal
Southeastern	No Data
Southwest	Minimal
Summit	Minimal
Tooele	Minimal
TriCounty	No Data
Utah	Minimal
Wasatch	Minimal
Weber-Morgan	Minimal
State	**Minimal**

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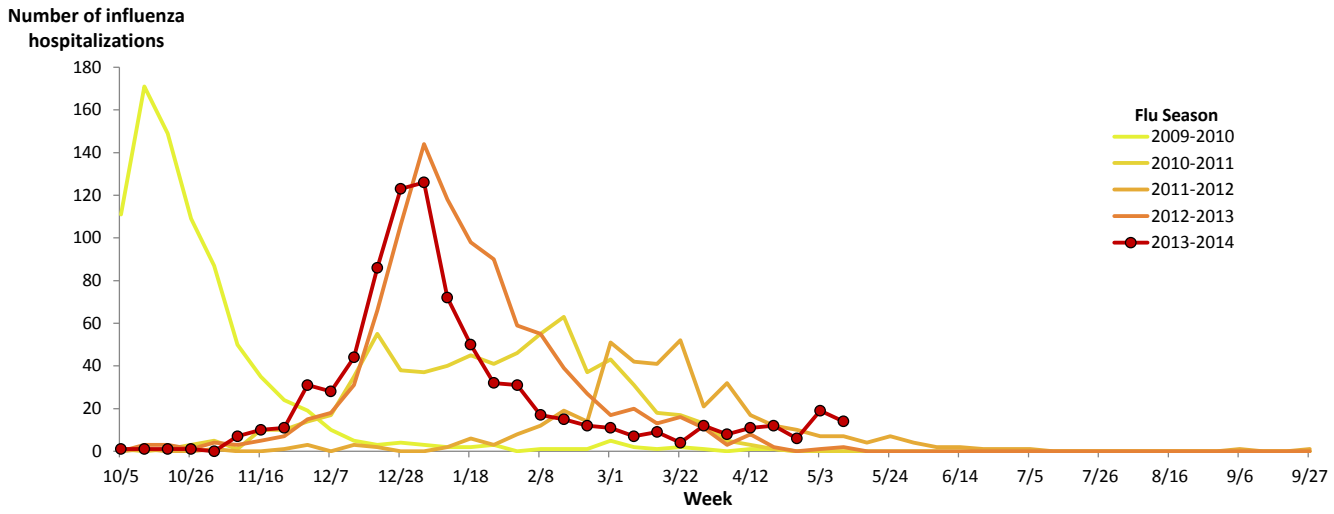
Influenza Hospitalizations: Influenza hospitalizations are a reportable condition in Utah. A person meets the case definition for an influenza hospitalization if they are hospitalized for any length of time and have an influenza positive serology, DFA, PCR, culture or rapid influenza diagnostic test. Public health in Utah gathers a variety of data on influenza hospitalizations including clinical features, course of illness, risk and protective factors, and influenza type and subtype. Data from influenza hospitalizations allows public health in Utah to better understand subgroups of the Utah population that are most severely affected by influenza and help to guide prevention messages and interventions.

Figure 2. Influenza Hospitalizations
Number of influenza hospitalizations by event date* - Utah, 2013-2014



*Event date is calculated based on a hierarchy of dates: 1. onset date 2. specimen collection date 3. date reported to public health.

Table 2. Influenza Hospitalizations by Health District - Utah

Health District	Current Week	Season To Date
Bear River	1	24
Central	0	13
Davis	1	75
Salt Lake	7	405
Southeastern	0	3
Southwest	1	63
Summit	1	13
Tooele	0	7
TriCounty	0	18
Utah	3	113
Wasatch	0	5
Weber-Morgan	0	73
State	**14**	**812**

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Table 3. Influenza Hospitalizations by Age Group - Utah, Season To Date

Age Group	Total Cases	% of Cases	Rate*
0-4	787	96.9	296.16
5-24	3	0.4	0.31
25-49	12	1.5	1.26
50-64	6	0.7	1.45
65+	4	0.5	1.52
Total	**812**	**100.0**	**28.44**

*Rate is calculated as the number of cases per 100,000 population

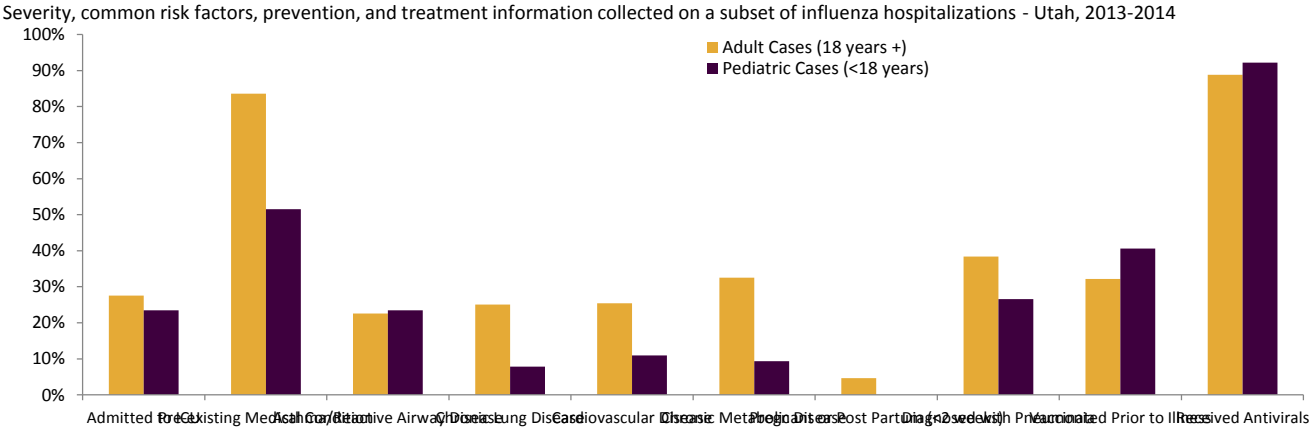
Table 4. Influenza Hospitalizations by Sex and Race - Utah, Season To Date

Variable		Num. of Cases	% of Cases	% in Utah Pop	p value*
Sex	Male	414	51.0	50.2	0.6737
	Female	397	48.9	49.8	0.6213
	Unknown	1	0.1	NA	--
Race	White, Not Hispanic	0	0.0	79.9	<0.0001
	Hispanic	108	13.3	11.9	<0.0001
	Native Hawaiian/Pacific Islander	0	0.0	1.0	0.2908
	Black/African American	0	0.0	1.3	0.2277
	American Indian	0	0.0	1.5	0.1946
	Asian	0	0.0	2.2	0.1149
	Unknown	704	86.7	NA	--

*If a p value is ≤ 0.05, there is a significant difference between the percentage seen in influenza hospitalizations and the general Utah population.

Figure 3. Summary Data for Influenza Hospitalizations

Severity, common risk factors, prevention, and treatment information collected on a subset of influenza hospitalizations - Utah, 2013-2014



http://health.utah.gov/flu ● 801-538-6191 ● epi@utah.gov

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Student Absenteeism: School-age children are at high risk for respiratory virus infections, including influenza. Aggregate, all-cause absenteeism data is collected weekly from over 350 schools throughout Utah. These data are analyzed to identify elevated absenteeism rates that could indicate the circulation of influenza in school-age children.

Figure 4. Student Absenteeism by Week

Rates for absences due to all causes - Utah, 2013-2014 and previous 3 year average

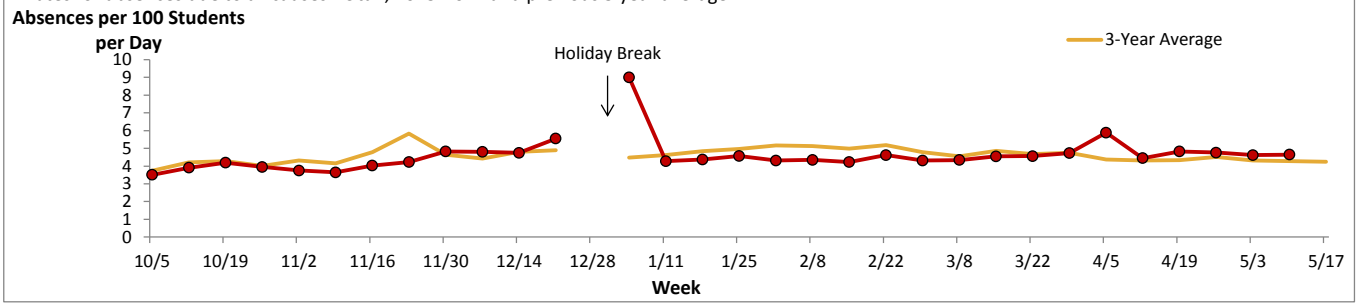


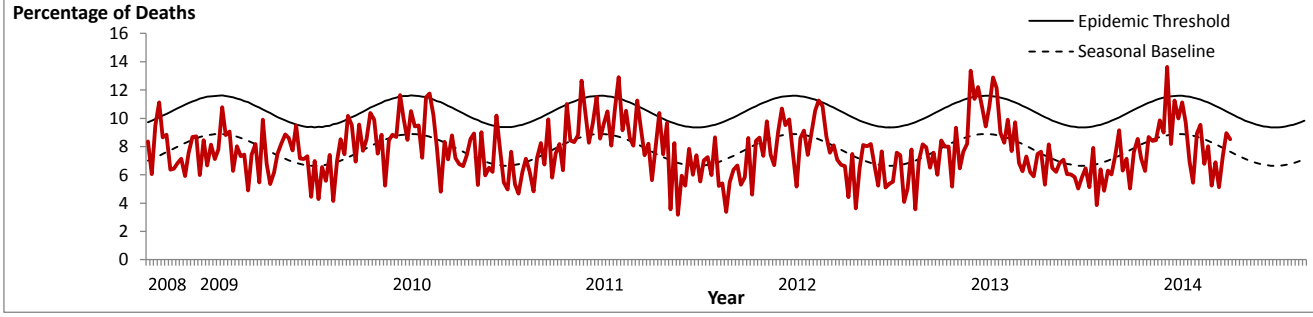
Table 6. Weekly Student Absenteeism - Utah, Current Week

Health District	Absences per 100 students/day
Bear River	3.6
Central	7.0
Davis	3.8
Salt Lake	4.2
Southeast	6.8
Southwest	6.3
Summit	4.1
Tooele	5.2
TriCounty	6.4
Utah	2.3
Wasatch	4.3
Weber-Morgan	4.4
State	**4.7**

Pneumonia and Influenza Deaths: Each week the total number of death certificates received and the number of those for which pneumonia or influenza was listed as an underlying or contributing cause of death is collected. The percentage of deaths due to pneumonia and influenza are compared with a seasonal baseline and epidemic threshold value calculated for each week. These data are used to monitor the severity of influenza illness in the community.

Figure 5. Pneumonia and Influenza Deaths

Percentage of deaths attributable to pneumonia and influenza by week of death - Utah, 2008-2014



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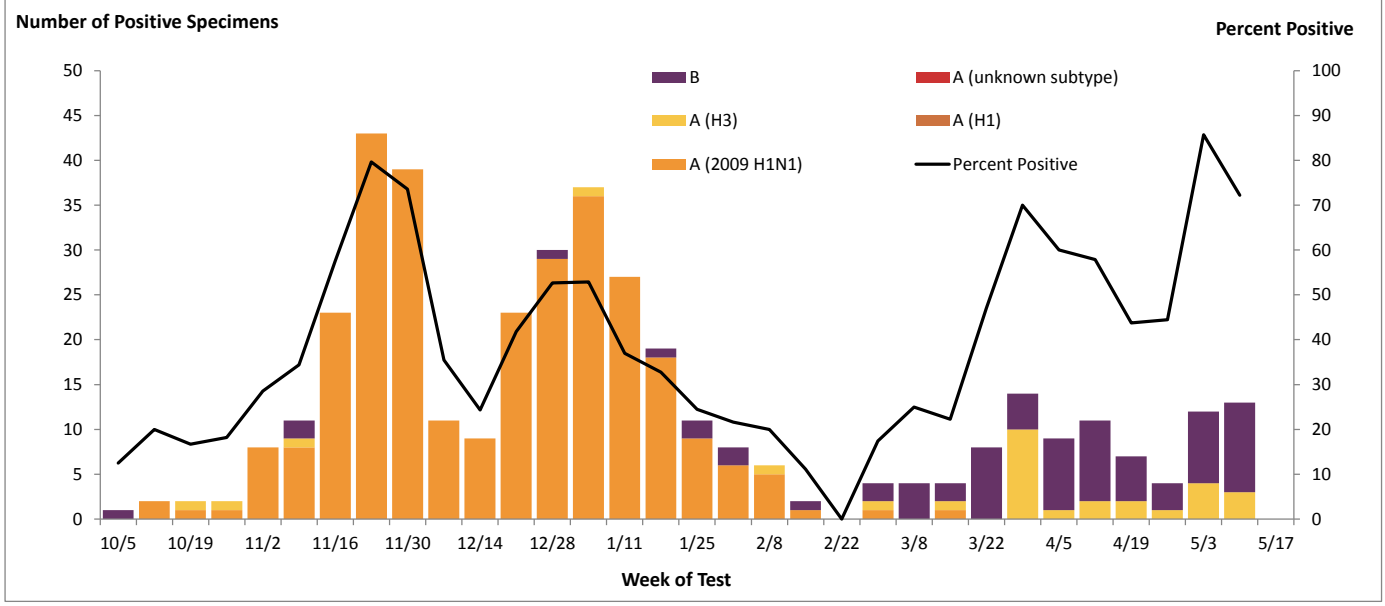
Laboratory Surveillance: The Utah Public Health Laboratory recieves specimens from all over the state for comprehensive influenza testing. All specimens are tested to determine influenza type and subtype. A portion of specimens are also sent to the Centers for Disease Control and Prevention for addtional testing, including gene sequencing, antiviral resistance testing and antigenic characterization.

Figure 6. Influenza Positive Tests
Influenza positive specimens tested by the Utah Public Health Laboratory - Utah, 2013-2014



Note: Due to limited resources, testing at UPHL has been restricted to a subset of the submitted specimens since the week of 12/7/2013. The decrease in positive specimens in the graph above represents the change in testing practices, and not a decrease in circulating virus.

Table 8. Utah Public Health Laboratory Influenza Testing Data

	Current Week		Season To Date	
	Total	**Percent**	**Total**	**Percent**
Specimens tested	18	--	977	--
Positive specimens	13	72.2	404	41.4
Positive Specimens by Type/Subtype				
Influenza A	3	23.1	331	81.9
A (2009 H1N1)	0	0.0	301	90.9
A (H1)	0	0.0	0	0.0
A (H3)	3	100.0	30	9.1
A (unable to subtype)	0	0.0	0	0.0
Influenza B	10	76.9	73	18.1